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ABSTRACT

This paper serves as an introduction to a group of papers produced by the Classroom Interaction Project of the Center for Research in Social Behavior at the University of Missouri in Columbia. This project has been chiefly concerned with ascertaining if black-ghetto and white-suburban classrooms use language differently and, if so, in what ways. Finding earlier methods used in classroom interaction research inadequate, the project has concentrated on the development of formal concepts and methods for the analysis of classroom discourse, and these papers are meant, therefore, to illustrate the application of these formal tools for classroom discourse analysis to the problem of racial differences among classrooms. The paper begins with a description of the methods used in producing the videotape recordings which serve as the data bank for the project. The data bank, which consists of more than 250 videotaped classroom lessons, and the sampling procedures used in obtaining it are then discussed, followed by an explanation of the various stages involved in processing the data. Finally, general conclusions are presented. Although differences between the languages spoken in black and white classrooms were found, there was no indication that black classroom usage is inferior to white classroom usage. See related documents AL 002 751-753. (FWB)

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VERBAL BEHAVIOR IN BLACK-GHETTO AND WHITE-SUBURBAN
CLASSROOMS: AN OVERVIEW*

by

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Beginning about 1962, Basil Bernstein (1962), a British socio-linguist, began to describe the language of lower-class persons as "restricted" and that of middle-class persons as "elaborated." Bernstein's thesis was that middle-class persons exhibited a language that was more precise, less self-referenced, and more suited for abstract reasoning, than was that of lower-class persons. Now this is a comforting message! Bernstein's audiences are overwhelmingly middle-class and enjoy being told that (after all) they are superior to less deserving persons. In particular, British teachers are impressed with the Bernstein message, for it appears to account for the fact that lower-class pupils do more poorly in British schools.

Bernstein's thesis has been reflected in America, but with a racial twist. Americans, of course, are more concerned with race than with social class, and American linguists are beginning to develop data to show that the speech of blacks in this country differs from that of whites in systematic ways. Unfortunately, much of this research has also been phrased to say that blacks are "disadvantaged" or "culturally impoverished" in their speech. Once again, such a thesis compliments whites on their "superior" language, appears to account for the fact that blacks do more poorly than whites in American schools, and can be extended to justify our spending more resources on the education of whites who are "obviously" in a better position to benefit from education.

Apart from the questionable use of such loaded terms to describe cultural differences, let us assume that Bernstein is right. What differences would we expect to find in the language spoken in classrooms found in black, urban ghettos versus that spoken in white suburbs? Clearly, the language

of black classrooms should be simpler, "impoverished," and "more restricted" than that spoken in the white suburb. This all sounds quite reasonable. The only problem is that this "obvious" hypothesis has simply not been investigated. In fact, we are unaware of any prior investigations of racial differences in classroom interaction, despite the fact that many hundreds of studies have now been published concerning classroom interaction, and despite the fact that racial differences in school achievement is a major social problem in America. By now it is well known that black pupils, particularly black boys, fall behind their white contemporaries when educated in black schools. Moreover, these findings hold up when black and white pupils are equated for intelligence and other personal characteristics. It is also known that black schools are more likely to be found in Southern states and in the urban ghettos of Northern cities, and are less well-supported than are schools attended by whites. And yet, little to nothing is known about what goes on in black classrooms, for nearly all previous research on classroom interaction has been laid in white, suburban settings.

The papers making up this session reflect a major, collaborative research effort concerned with analyzing classroom discourse. This effort has made use of a data bank of videotape recordings of live classroom lessons. Among other variables represented in this data bank is race--since many of our recordings were made in white, suburban classrooms, while others came from black, ghetto schools. The project has also focused on the development of formal concepts and methods for the analysis of classroom discourse. From our viewpoint, most prior research on classroom interaction has attempted to make judgements about the semantic properties of verbal exchanges among teachers and pupils without dealing with the explicit, linguistic cues by

which these semantic properties are signaled. For this reason, we have chosen to go back to our linguistic origins, to look closely and directly at the language of the classroom, and to develop concepts and methods for discourse analysis that reflected actual classroom speech. The papers to be presented, then, illustrate the application of formal tools for classroom discourse analysis to the problem of racial differences among classrooms. Do participants in black-ghetto and white-suburban classrooms use language differently, and if so in what ways?

Videotape Recordings in the Classroom

My task in this paper is to provide an introduction to the project as a whole and to anticipate the contributions of the papers which follow. Let us begin with a brief description of the methods we have used in making videotape recordings in live classrooms, for some in the audience may be unfamiliar with this technique of gathering data.

Since 1964 we have been collecting video recordings of live classroom lessons. All of our recordings have involved two video cameras, both of which are remotely controlled by motors, one of which is trained on the teacher, the other focused on pupils with a wide-angle lens. Both cameras are placed in glass-fronted boxes and are invisible to classroom members for all practical purposes. Cables for both video and audio equipment are laid to the windows of the classroom, thence to a control truck where operators sit together with a control console and a videotape recorder. The two video signals are blended at the control panel to make a single, composite image which is then recorded. In general, most of the images we have recorded emphasized the wide-angle view of the pupils, but an "unused" corner of this general image is used to insert the face of the teacher. In this way, a

view is retained of most of the faces of classroom participants most of the time.

Two sound channels are also used in our recordings. One of these records the voice of the teacher and is provided by a small, transmitting, cordless microphone that hangs around the teacher's neck. This sound channel provides all verbal utterances emitted by the teacher and nearly all utterances of others within ten feet. The second sound channel is fed by several microphones that are scattered throughout the classroom, usually hung from the light fixtures. This second channel provides pupil utterances from the back of the room, although it also picks up considerable background noise too--since classrooms are noisy environments.

So far so good. I have now described a technical set-up that should allow the making of videotape recordings of classroom events. But how do we know that the events we record are typical of classrooms? How can we be sure that teachers and pupils are not "faking it," or are not at least "up tight" about the process? The answer, of course, is that the best we can hope for is to minimize the effects of the equipment. Teachers we have studied were all volunteers, although more than 90 percent of all teachers we have sampled were willing to participate. The equipment is designed to operate with no noise or signal whatsoever in the classroom, and in fact many pupils did not know when it was turned on. In addition, the equipment was always placed in the room a day or two before our actual recording sessions so as to familiarize participants to its presence. Teachers were also told that the purpose of the research was not to evaluate their efforts but rather to examine various aspects of interaction in "typical" classrooms, and assurances were given of anonymity and that no one in the school or

elsewhere would ever view the videotapes for other than research purposes. Finally, it would appear unlikely that most teachers or pupils could "fake" the linguistic variables we are reporting here--even if they wanted to do so. Despite these disclaimers, we would guess that some classroom participants were "on their mettle" during the recording sessions. Videotapes are not the perfect means for gathering classroom interaction data--simply the best technique yet available.

The Data Bank

The data bank from which the studies to be reported were drawn consist of recordings of more than 250 classroom lessons. Three samples appear within the bank. The first sample was obtained from white, upper-middle-class classrooms from a suburban area in Missouri during the middle of the school years in 1964 and 1965. This first sample was constituted so that it represented balanced conditions of four, independent variables. Equal numbers of first, sixth, and eleventh grade classrooms were represented, along with both mathematics and social studies lessons, both male and female teachers, and younger and older teachers. The original sample consisted of approximately 75 different lessons and was obtained in more than 25 different schools. Some of you may be familiar with an earlier study of the social systems of these classrooms, conducted by R.S. Adams and myself (1970) that was drawn from this sample.

The second sample was obtained from black, lower-class classrooms located in an urban ghetto in Missouri, and were recorded in 1967 and 1968. In all respects save one this second sample was designed to match the sample originally obtained from white, suburban schools. Again, the sample represented equal numbers of first, sixth, and eleventh grades, both male

and female teachers, and younger and older teachers. It also had equal numbers of mathematics and social studies lessons, but in addition we also added a number of English-language lessons because we were beginning to be concerned with the problems of racial differences in language use in the school. About 100 lessons appeared in this second sample.

The third sample is a longitudinal one. It was obtained from a single, fourth-grade classroom, taught by a female teacher in a small city in Missouri in 1967. This third sample includes a total record of each classroom day during the first ten days of the semester plus samples of classroom days throughout the rest of the semester.

Samples

Studies to be reported here all made use of matched lessons chosen from the first and second samples--that is, lessons that were equated for subject matter, grade level, age, and sex of teacher--but were contrasted for race. For convenience, we shall describe these classrooms as "black" and "white" respectively. It should be understood that the faces of all the pupils in "black" classrooms were Negroid and those of all or nearly all the pupils of "white" classrooms were Caucasian. However, the black and white classrooms differed in other respects too. The black pupils were from lower-class homes, the white pupils from middle- or upper-class homes--so that findings we shall report as racial differences might also be interpreted for social class. (But then race and social class are correlated events in America--to our everlasting shame.) Again, the white classrooms were located in newer schools, were better lighted, and had more artifacts to support the educational effort. Finally, racial differences also appeared among those who taught in these classrooms, although these differences were associated

with grade level. All of the teachers in the black first-grades were also black, about half of the sixth-grade teachers in black classrooms were black, while all of the eleventh-grade teachers of black classrooms were white. In contrast, but one black teacher appeared in our white sample, at the eleventh-grade level. In several of our papers we will present data concerning the verbal behavior of teachers in black and white classrooms, and you may want to remember the racial composition of teachers within each grade as you look at these findings.

Each of the studies to be reported represents the product of thousands of hours of methodological development and data processing. For this reason, each study was performed on a small sub-sample of lessons, matching black and white classrooms. All data were drawn from social studies lessons. In some cases, entire lessons were used as a data source, while other studies made use of ten-minute samples of discourse taken from the middle of the sampled lesson. Lessons selected for sub-samples were chosen to complete a balanced design or because the quality of the videotape recording was better for one lesson than for another. The studies reported by Hays and Barron made use of 12 classroom lessons that were matched, two each for black and white classrooms at each grade level. For certain purposes, Hays also augmented this sample with additional, black classrooms. Still a third sub-sample appears in the studies reported by Keyes and Loflin, in that data from 15 classrooms are involved, including two extra eleventh-grade, and one extra sixth-grade classroom. The study reported by Guyette makes use of two sub-samples, the same one used by Keyes and Loflin, and a second one involving eight classroom lessons.

Data Processing

The studies to be reported also represent three, different stages of data processing, each of which is concerned with the analysis of classroom discourse. The first of these stages is the preparation of a discourse record in the form of a textual transcript. All of us are familiar with such texts which represent, in written form, all that transpired in the public exchange of the lesson, together with a listing of the identities of the speakers and enough supplementary notes to make sense out of ambiguous utterances. In our case, texts were passed through several stages of editing so as to provide absolute control over identification of speakers, spelling, punctuation, and format and content of supplementary notes. We refer to such a transcript as a fine post-edited text, and data in the form of fine post-edited texts are entered into the computer--in English--as a data source. The paper by Hays demonstrates some of the ways in which a fine post-edited text may be mined for surface characteristics of classroom discourse.

A second stage of data processing attempts to break the discourse stream into a series of units of meaning, which we term simplex sentences. The notion of simplex sentences is roughly similar to that of clause, and it is our presumption that at its simplest level a discourse may be reduced to a string of simplex sentences containing but a single verb, one or several nouns and modifiers, plus a set of judgements that tell how the simplex sentences may be fitted back together again to make the original discourse. We refer to a record of classroom discourse in the form of a string of simplex sentences as a reconstructed text. Three types of judgements are required in converting a fine post-edited text into its reconstructed equivalent. First, the discourse must be broken into simplex components. Second, coded judgements

must be provided that tell us how those simplex sentences were originally strung together. And third, information implicit in the original text must be provided. Several forms of implicitness appear in natural speech. Sometimes we complete our sentences by means of gesture, sometimes we reference other persons or events with ambiguous pronouns such as "that" or "you," sometimes our sentence **structure** depends upon an agreement between the speaker and listener that each remembers what has just been said. Each of these forms of implicitness must be recovered and provided parenthetically in the simplex sentence in order to follow the logic of the discourse. The paper by Guyette provides a justification for the inclusion of implicit information within reconstruction, while that of Marlin deals with the methodology of reconstructing and processing reconstructed textual materials in the computer.

A third stage of data processing calls for judgements to be made concerning structural and semantic properties of simplex sentences and their constituent words. Although not all aspects of meaning in classroom discourse can be reduced to judgements made for simplex sentences, many can--and the remaining three papers illustrate semantic judgements that can be made about this unit. Barron presents data concerning the use of various grammatical cases in classroom discourse, Keyes concerns herself with structural prerequisites to the study of paraphrase, while Loflin reports data on the linking structures for simplex sentences. Each of these types of data was originally coded as a series of semantic judgements for simplex sentences or words and was entered, along with other types of coded judgements, into the computer for analytic processing. Each constitutes a source of base data that may be related to notions about classroom interaction that could be studied only vaguely heretofore.

Three types of data, thus, have become available to us so far in the process of developing tools for the analysis of classroom discourse: fine post-edited text, reconstructed text, and coded judgements of the structural and semantic properties of simplex sentences. Each of these sources provides its own variety of data. The fine post-edited text can be analyzed for surface characteristics of discourse, such as sentence length, vocabulary, and sequences of utterances. A reconstructed text provides a basis for analyzing the micro-logic of discourse and enables us to conduct more realistic content analyses of the referents to which speakers addressed themselves in the classroom. Semantic judgements concerning words and simplex sentences provide us an approach to such educational concerns as the clarity, complexity, paraphrase, case use, and other characteristics of interest in classroom discourse.

Findings

So much for our data, samples, and methods. Is Bernstein right? Does the black classroom exhibit "restricted" language forms? And if so, can we use this fact to "explain" why it is that black pupils (particularly boys) do more poorly than do whites in the educational race?

As is so often true, it turns out that the answer is not a simple one. In general, our data show that black and white classrooms are remarkably similar in language use, using the variables we have examined to date. All speakers use the same language forms. In addition, profiles of language use are closely similar when examined for black and white classrooms. It would also appear that the teacher is a greater source of variance for classroom language use than is race, for there is similarity between the language of the teacher and the language of the pupils in all classrooms! (It is possible

that his means that teachers using complex language forms produce similar complexity in pupils, but it is also possible that pupils who use simple forms coerce teachers into descending to their level--or even that norms within our culture prescribe an "appropriate" level of language complexity for teachers at a given grade level, as would certainly appear to hold for the nursery school teacher.)

However, within this general picture, several patterns emerge. For one, the differences appear between black and white classroom discourse and clearly relate to grade level. First grade black pupils appear to use different frequencies of language forms than do white pupils, and in terms of several indicators their language appears simpler. Data pertaining to this conclusion are offered by Hays, Guyette, and Loflin. But by the time pupils have reached the sixth grade, differences between black and white pupils are disappearing, and blacks actually exceed their white contemporaries in some indices of language complexity at the eleventh grade. Loflin will argue that these data suggest a "phaseology" to the learning of complex language forms, and that white pupils are apparently learning complex forms at an earlier age. For another, some differences between black and white classroom language usage appear to withstand the effects of time. Guyette advances data suggesting that blacks use more implicit language forms than do whites. Barron not only demonstrates black-white differences in case usage but suggests that this variable is as much determined by sex of the speaker as it is by his race. Keyes suggests that some racial differences persist in linking structure forms.

In short, then there are differences between the languages spoken in black and white classrooms. We have no data that suggest that black

classroom usage is in any way inferior to white classroom usage, in fact in some ways the language of blacks scores "above" that of whites. Moreover, the data suggests that black and white pupils are jointly capable of using the same language forms. However, it would appear that black pupils arrive in first grade with characteristic forms of language that differ somewhat from those of whites, and that not all of these characteristic anomalies are overcome by the homogenizing practices of education. Whether these language differences are sufficient to account for differential learning by blacks and whites--or whether other factors such as the wretched support given to black schools and the lack of male teachers at the primary level have greater effect--is for future research to establish.

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Handout A

Papers
AERA
6 Feb 1971
Session C46
0830

GLOSSARY OF TERMS

for

VERBAL INTERACTION IN THE CLASSROOM

Biddle
Hays
Guyette
Marlin
Barron
Keyes
Loflin

GLOSSARY

Embedding: The combination of at least two simplex sentences so that one simplex (the constituent or embedded sentence) serves a syntactic function (i.e., nominal, modifier, etc.) within the other simplex (the matrix sentence).

Types of embedding

1. for-to complement

It's all right for Harry to be late.

2. -ing complement

Nancy enjoys swimming.

3. Possessive -ing complement

John's riding is terrible.

4. to complement

Annie started to move.

5. whether, if complement

Harry asked whether Tom had gone.

Harry asked if Sue wanted turkey.

6. Wh- complement

John knew what Helen wanted.

7. That complement

Mary said that Jim would be late.

8. The fact that complement.

The fact that I am a woman is irrelevant.

9. Possessive

Jim's house is on the corner.

10. Relative

The girl who left was Pat.

11. Appositive

The word seizing has many meanings.

12. Comparative

Tom is friendlier than Bob.

13. Verbal noun

The struggle for civil rights continues.

Conjoining: Two source sentences are joined together by the conjoining links and, but, or, or and/or or their meaning equivalents. Conjoining may occur with or without deletion. In all the examples below the words in parentheses have been deleted from the spoken sentence.

1. And (Additive)

Tom left and Mary stayed. (without deletion)

Tom (left) and Mary left. (with deletion)

2. But (Adversative)

Jim danced, however Sue just sat. (without deletion)

Jim danced but Sue didn't (dance). (with deletion)

3. Or (Disjunctive)

Mark must go or I'll stay home. (without deletion)

Surely Mark (will go) or Pete will go. (with deletion)

4. And/or (additive disjunctive)

I want to go swimming and/or (I want to go) to the movies.
(with deletion)

Linda can wear a dress and/or she can wear slacks.

(without deletion)

Adjoining: Two source sentences are joined together by a function word or link which exhibits the logical relationship of adjoining links (see below). Adjoining may occur with or without deletion.

1. Temporal

I'll go when you go. (without deletion)

I'll go whenever you want to (go). (with deletion)

2. Causal

Because you cried, I cried. (without deletion)

I laughed because you did (cry). (with deletion)

3. Concessional

Although today is Saturday, I'm going to school.

(without deletion)

Even though you won't (sing), I will (sing). (with deletion)

4. Conditional

If you leave I'll cry. (without deletion)

If you leave, I will (leave). (with deletion)

5. Purposive

Study hall is provided for pupils to study in.

(without deletion)

A hammer is for (someone) pounding. (with deletion)

6. Inferential

If it snows then we'll have to stay home.

(without deletion)

We'll come if we can (come). (with deletion)

Natural sentence: An utterance which contains one or more simplex sentences and is the unit in the fine post-edited text which begins with a capital letter and ends with a period.

Simplex sentence: A primitive sentential form irreducible into additional sentences.